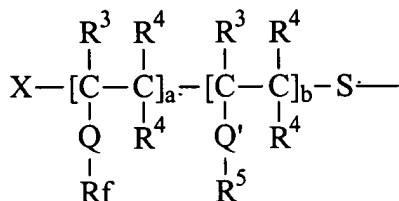


We claim:

1. A composition comprising
  - a) a fluorochemical oligomeric compound of the formula:

5 (A-L<sup>1</sup>-)<sub>n</sub>[R<sup>1</sup>-(L<sup>2</sup>-R<sup>2</sup>)<sub>m</sub>]<sub>p</sub>, wherein

A is a fluorochemical oligomeric moiety of the formula



wherein the sum of a + b is an number such that the compound is oligomeric, and a is at least 1;

10 R<sup>3</sup> is hydrogen, halogen, or straight chain or branched chain alkyl containing 1 to about 4 carbon atoms;

each R<sup>4</sup> is independently hydrogen or straight chain or branched chain alkyl containing 1 to about 4 carbon atoms;

Q and Q' are each independently a covalent bond or an organic linking group,

15 R<sub>f</sub> is a fluoroaliphatic group that comprises a fully fluorinated terminal group;

R<sup>5</sup> is a fluorine-free aliphatic group;

X is a hydrogen atom or a group derived from a free radical initiator;

L<sup>1</sup> and L<sup>2</sup> are independently divalent linking groups,

R<sup>1</sup> is the residue of an organic isocyanate,

20 R<sup>2</sup> is a hydrogen or an aliphatic group,

n is 1 to 4, m is 0 to 4, and p is 1 to 4,

wherein at least one of said R<sup>2</sup> and R<sup>5</sup> groups has 12 or more carbon atoms; and

- b) an antisoiling compound.

25 2. The composition of claim 1 wherein the ratio of a to b of said fluorochemical oligomer a), is at least 2:1.

3. The composition of claim 1, wherein R<sub>f</sub> has the structure C<sub>o</sub>F<sub>2o+1</sub>, where o is 3 to 7.

4. The composition of claim 1, wherein each of L<sup>1</sup> and L<sup>2</sup> are derived from the reaction of a nucleophilic group with an isocyanate group.

5. The composition of claim 4 wherein L<sup>1</sup> and L<sup>2</sup> are independently selected from a ureylene, a urethanylbiuretylene, a guanidinylene and a carbodiimidylene.

6. The composition of claim 1 wherein a+b of said oligomeric moiety is 3 to 20.

10 7. The composition of claim 1 wherein the ratio of component a) to component b) is 1:20 to 20:1.

8. The composition of claim 1, wherein Q and Q' of said fluorochemical oligomer are independently selected from the following structures, wherein each k is independently an integer from 0 to about 20, R<sub>1</sub>' is hydrogen, aryl, or alkyl of 1 to about 4 carbon atoms, and R<sub>2</sub>' is alkyl of 1 to about 20 carbon atoms:

-SO <sub>2</sub> NR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> O(O)C-	-CONR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> O(O)C-
-(CH <sub>2</sub> ) <sub>k</sub> O(O)C-	-CH <sub>2</sub> CH(OR <sub>2</sub> ')CH <sub>2</sub> O(O)C-
-(CH <sub>2</sub> ) <sub>k</sub> C(O)O-	-(CH <sub>2</sub> ) <sub>k</sub> SC(O)-
-(CH <sub>2</sub> ) <sub>k</sub> O(CH <sub>2</sub> ) <sub>k</sub> O(O)C-	-(CH <sub>2</sub> ) <sub>k</sub> S(CH <sub>2</sub> ) <sub>k</sub> O(O)C-
-(CH <sub>2</sub> ) <sub>k</sub> SO <sub>2</sub> (CH <sub>2</sub> ) <sub>k</sub> O(O)C-	-(CH <sub>2</sub> ) <sub>k</sub> S(CH <sub>2</sub> ) <sub>k</sub> OC(O)-
-(CH <sub>2</sub> ) <sub>k</sub> SO <sub>2</sub> NR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> O(O)C-	-(CH <sub>2</sub> ) <sub>k</sub> SO <sub>2</sub> -
-SO <sub>2</sub> NR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> O-	-SO <sub>2</sub> NR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> -
-(CH <sub>2</sub> ) <sub>k</sub> O(CH <sub>2</sub> ) <sub>k</sub> C(O)O-	-(CH <sub>2</sub> ) <sub>k</sub> SO <sub>2</sub> NR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> C(O)O-
-(CH <sub>2</sub> ) <sub>k</sub> SO <sub>2</sub> (CH <sub>2</sub> ) <sub>k</sub> C(O)O-	-CONR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> C(O)O-
-(CH <sub>2</sub> ) <sub>k</sub> S(CH <sub>2</sub> ) <sub>k</sub> C(O)O-	-CH <sub>2</sub> CH(OR <sub>2</sub> ')CH <sub>2</sub> C(O)O-
-SO <sub>2</sub> NR <sub>1</sub> '(CH <sub>2</sub> ) <sub>k</sub> C(O)O-	-(CH <sub>2</sub> ) <sub>k</sub> O-
-C <sub>k</sub> H <sub>2k</sub> -OC(O)NH-	-C <sub>k</sub> H <sub>2k</sub> -NR <sub>1</sub> 'C(O)NH-,
-OC(O)NR'(CH <sub>2</sub> ) <sub>k</sub> -	-(CH <sub>2</sub> ) <sub>k</sub> NR <sub>1</sub> '- and
-(CH <sub>2</sub> ) <sub>k</sub> NR <sub>1</sub> 'C(O)O-	

9. The composition of claim 1 wherein said R<sup>2</sup> group is an aliphatic group of 12 to 75 carbon atoms.

10. The composition of claim 1 wherein the sum of carbons atoms in said R<sup>2</sup> and R<sup>5</sup> groups is 12 to 100.

11. The composition of claim 1 wherein said antisoiling compound is selected from a methacrylic ester polymer, colloidal alumina, colloidal silica, a silsesquioxane, polyvinylpyrrolidone and a water-soluble condensation polymer comprising the reaction product of formaldehyde and an amine.

12. The composition of claim 1 wherein said antisoiling compound comprises a water-insoluble addition polymers derived from a polymerizable ethylenically unsaturated monomer free of non-vinyl fluorine, the polymer having at least one major transition temperature higher than about 25°C .

13. The composition of claim 1, where b of said fluorochemical oligomeric moiety is 0.

14. The composition of claim 1, wherein R<sup>1</sup> is the residue of an aliphatic or aromatic polyisocyanate.

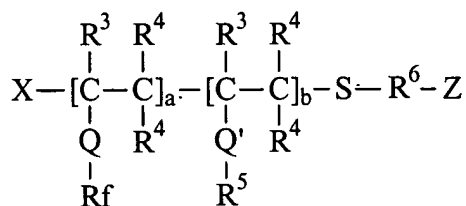
15. The composition of claim 1 wherein the ratio of component a) to component b) is 1:10 to 10:1.

16. The composition of claim 1, wherein said antisoiling (component b)) is selected from the group of (meth)acrylic ester (co)polymers, colloidal alumina, colloidal silica, silsesquioxanes, poly(vinylpyrrolidone) and styrene-maleic anhydride copolymers.

17. The composition of claim 16 wherein said antisoiling agent comprises ethyl methacrylate/methyl methacrylate copolymer.

18. The composition of claim 1, wherein said fluorochemical oligomeric component is the reaction product of

a) a fluorochemical oligomer of the formula



wherein

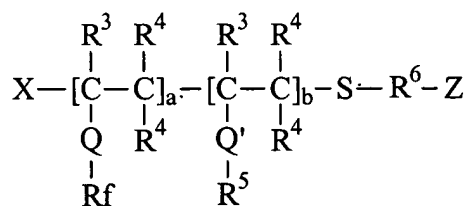
$\text{R}^6$  is an aliphatic or aromatic group and Z is an isocyanate-reactive group,

b) a isocyanate of the formula  $\text{R}^1(\text{NCO})_x$ , wherein x is 1 to 6, wherein  $\text{R}^1$  is an aliphatic, alicyclic or aromatic group, and

c) an aliphatic compound of the formula  $\text{R}^2\text{---}(\text{Z})_q$ , where  $\text{R}^2$  is a aliphatic group, Z is an isocyanate reactive group and q is 1 to 4.

19. The composition of claim 1, wherein said fluorochemical oligomeric component is the reaction product of

a) a fluorochemical oligomer of the formula



wherein

$\text{R}^6$  is an aliphatic or aromatic group,

$\text{R}^5$  is a non-fluorinated aliphatic group of 12 to 75 carbons atoms, and

Z is an isocyanate-reactive group, and

b) an isocyanate of the formula  $\text{R}^1(\text{NCO})_x$ , wherein x is 1 to 6, wherein  $\text{R}^1$  is an aliphatic, alicyclic or aromatic group.

20. A coating composition comprising a mixture of:

a) a solvent; and

b) the composition of Claim 1.

21. The coating composition of claim 20 wherein said mixture comprises an aqueous solution, dispersion or suspension.

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22. The coating composition of claim 20 further comprising a surfactant.

23. The coating composition of claim 20 comprising 0.1 to 50 weight percent of said composition of claim 1 .

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24. An article comprising:

a substrate having one or more surfaces; and

the fluorochemical composition of Claim 1 coated on one or more surfaces of said substrate.

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25. The article of Claim 24 wherein the substrate is a fibrous substrates.

26. A method of imparting repellency and antisoiling to a substrate, having one or more surfaces, comprising the steps of:

20 applying the coating composition of claim 20 onto one or more surfaces of said substrate; and

curing the coating composition at ambient or elevated temperature.

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